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ABSTRACT

Allegations by a resigning employee of intimidation, cover-up, unethical behavior, legal violations, waste, and mismanagement were investigated at a major university, relying on confidential interviews and a review of relevant documentation. The case study of this evaluation illustrates the advantages of a mix of qualitative and quantitative approaches in evaluation and audit. Confidential interviews with 16 health and safety professional staff members were charted to graphically illustrate staff concerns and were categorized for relevant issues. The external view of the evaluator was juxtaposed against the internal views of staff. Both internal and external evaluators found evidence of some waste and mismanagement. The external evaluator thought that there had been one instance in which the university acted unethically, but found no evidence of a cover-up; staff members recognized no examples of unethical action, but some believed there might have been a cover-up. These apparent contradictions represented weaknesses in communication among all parties, rather than the lack of reality of the insiders' viewpoints. Combining quantitative and qualitative approaches enhanced the usefulness and accuracy of the evaluation. Three illustrative figures are provided. (SLD)

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TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

FROM QUALITATIVE TO QUANTITATIVE AND BACK AGAIN:

PHILOSOPHICAL AND METHODOLOGICAL TRANSITIONS

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From Qualitative to Quantitative and Back Again:
Philosophical and Methodological Transitions

I am a firm believer in the value of a good qualitative and quantitative mix in evaluation and audit. Combining approaches naturally enhances the process and outcome of a study. Moreover, it is doubtful that any study can be conducted well without using both qualitative and quantitative methods. Attempting to conduct a purely qualitative or quantitative evaluation is artificial and needlessly limits the use of potentially rich data sources. In addition, failure to maximize the full range of tools in the trade may weaken an argument and diminish an evaluator's credibility, resulting in a failure to convince a client of the utility of an evaluation finding, and seriously eroding the study's impact.

Evaluators typically have a predisposition toward the use of qualitative or quantitative methods, based on their education and experience. However, the evaluator's predisposition and the dominance of an approach in a given study does not suggest exclusivity, lack of rigor, or the complete absence of any other approach. The nature of the problem and the audience determine the best way to present evaluation and audit findings -- not the intrinsic value of any approach per se.

This case is an example of a qualitative/quantitative mix from a highly publicized evaluation. The evaluation required some methodological dexterity: methodological shifts from qualitative to quantitative and back again were necessary to complete a meaningful and useful study. The study involved collecting confidential interviews, converting them into quantitative data, reporting the data in a quantitative (and qualitative) mode, and then assessing the quality of the quantitatively presented information. The philosophical positions underlying these methodological transitions from phenomenology to positivism and back again also come under discussion.

The Case Study

I was asked to evaluate allegations of intimidation, cover-up, unethical behavior, legal violations, and waste and mismanagement at a major university. These allegations were made by a senior health and safety officer in his letter of resignation.

This study relied primarily on confidential interviews and a review of relevant documentation. I reviewed thousands of sheets of information, ranging from electronic mail to newspaper

stories. I cross-checked information using a wide variety of sources. As I conducted interviews and reviewed documents, I discussed my tentative conclusions with those people directly affected. I subsequently wrote internal memoranda about specific subjects and again shared those memoranda with the employees they concerned, encouraging them to provide corrections or supplementary information.

The heart of this discussion involves the confidential interviews I conducted with staff members at the university. I interviewed all sixteen health and safety professional staff members, and their responses provided a useful barometer with which to gauge how broadly these concerns were shared. Due to the sensitive nature of this evaluation, special precautions were taken to safeguard all information and to protect the confidentiality of concerned staff. Sensitive interviews were carefully coded to preserve anonymity. (See Fetterman 1988 for details about the study.)

The Insider's View

These confidential interviews provided an insider's view or emic perspective about these allegations. The ex-employee felt so frustrated by what he perceived as the university's lack responsiveness to problems he identified that he seemed to feel that the failure to accept his recommendations and act on them in the time frame he had recommended constituted "unethical behavior." I asked each of the professional staff members in the department if they believed the university had engaged in any unethical behavior. Despite the fact that I had invited them to define "unethical behavior" as broadly as they wished, none of them knew of any case or believed that there were any cases where the university had acted unethically. (See Figure 1.)

The former employee had been instrumental in creating a computer data base in which department staff members can enter any health and safety problem they identify. In principle, after completing an inspection, a health and safety professional enters the data, including a description of the problem, its location, and its severity, as well as the university department believed to be responsible for correcting the condition. The entries are printed out and sent to the responsible department, and there is a field in each record for entering the date when the department corrects the problem.

Health and Safety Department
Confidential Interviews
Conversion of Percentages to Bar Chart

Figure 1

A number of professionals, including the former employee, diligently recorded problems, but others did so only intermittently or not at all. There has been, moreover, very little follow-up on the identified hazards: The health and safety staff have not checked with the departments to find out what, if anything, has been done (19% of the professional staff were aware of code violations, primarily in this data base, that were being ignored; see Figure 1) -- nor have the departments, typically, reported back to the health and safety department. Of almost 5,300 entries in the data base, only 173 record completion dates. Others have certainly been corrected as well, but the numbers are unknown due to lack of follow-up. In general, there is little feedback to the staff concerning responses to their recommendations, or time lines for correcting problems they identify. Thus, having heard nothing of steps taken or planned, some employees believed there might be a cover-up (See Figure 1).

The former employee cited numerous examples of ways in which he believed he was "intimidated." However, only one of them constituted intimidation. After being informed that the former health and safety professional had contacted the press about problems with the university's incinerator, the supervisor said the former employee should be told that he would be fired if he went to the press again. I found this case to be unique: No other employee reported being threatened with discharge if he or she were to disclose problems. (See Figure 1.)

I did find mismanagement and waste on both the university and health and safety department levels. This finding results from the entire investigation, including not only the allegations of the former employee, but other matters that emerged in the course of the study. As Figure 1 shows, 75% of the health and safety department staff believed there was university level mismanagement and waste, and 88% stated there was departmental mismanagement and waste.

The Quantitative Conversion

These qualitative confidential interviews were converted into figures and a bar chart to graphically illustrate department staff member perceptions -- a useful baseline in this sensitive and broad investigation. The information provided policymakers and the public with a handle on the widespread character (the representativeness), of these concerns among a knowledgeable

university population.

The long verbatim interviews were reduced to summaries and key statements that indicated the speakers' views about a specific topic. (See Figure 2.) The number of individuals who agreed with a specific allegation were added together, and that figure was divided by the total number of the staff to calculate the percentages that appear in the bar chart. (See Figure 3.)

Most interviews were easy to categorize. They were straightforward, honest comments about the relevant issues. However, interviewees are not always clear communicators. In some instances, an external, social scientific, judgment was needed to properly categorize these (phenomenologically derived) insider perceptions about the allegation topics. For example, one staff member replied no to my question about whether he was aware of any legal or code violations. However, he then spent the next half hour detailing all the specific exceptions to this initial statement. (See Figure 2.) In essence, he said no, a pro forma response to an independent interviewer, and then as trust and rapport developed, he opened up about all the legal violations he was aware of in the university. Thus I classified his response a yes, instead of a no. (I also triangulated information to verify his statements about the violations.) Thus, the data reported in the bar chart more accurately reported the insider's perspective with an external qualifier than it would have at face value.

The External (Social Scientific) View

An external (social scientific) assessment was needed to place the insiders' views in context, even after the insiders' views were qualified and categorized by external review. In some cases, there was a conflict between external positivistic assessments and primarily phenomenological insider information. However, this conflict was typically a result of differing levels of knowledge about a given issue. For example, none of the health and safety staff members knew about any case or believed that there were any cases in which the university acted unethically. However, I felt that in one case the university had acted unethically, although it was a close call.

The university used two incinerators to dispose of some of its infectious waste materials. There had been a history of intermittent complaints about foul odors emanating from one of the

Key Statements

Legal Violations

Interview A, C, D, F, G, H, I, J, K, L, N, O, P: No legal violations that they were aware of.

*

Interview B, E, M:

*

B: we have many violations. Every steam tunnel...

*

E: said there wasn't a legal violation, but then contradicted self with examples of compliance violations, e.g. chemical waste storage...

*

M: does not believe we are in compliance with...

Figure 2

Confidential Interviews

Conversion into Percentages (n = 16)

Allegations	Intimidation & Unethical Behavior	Legal Violations	Cover-up	Waste and Mismanage
No. Staff	0 & 0	3	5	12 & 14
Percent	0% & 0%	19%	31%	75% & 88%

Figure 3

university's incinerators. Employee complaints about respiratory distress and elevated levels of illness focused on the second incinerator. Although the tests performed by the health and safety department did not isolate any specific agents or organisms that could be linked to the reported symptoms, management knew of the reentrainment (fumes coming back into the office area), and knew that it might have contributed to those symptoms. At the same time, the university was building a new incinerator to replace these incinerators.

I believe that some time after the university incinerator problems had been identified as serious, the university should have stopped using these incinerators altogether (and used off-campus facilities until the new incinerator was operational) or, at very least, given written notice of the possible hazards to all employees working in areas that might have been affected (rather than relying on the haphazard communications that occurred).

The cover-up issue represented another area of apparent disagreement or misinterpretation. The health and safety database was by no means an attempt to conceal but, just the contrary, an attempt to communicate problems to those who should deal with them. The failure to follow up is an example of ineffective institutional management: There was a lack of a systematic procedure for assuring that identified problems were corrected.

Health and safety staff thought that there might be a cover-up, because there was no feedback loop to inform them about what had been done with their information. They did not know what was and was not being done in response to their findings. This was a serious communication problem. I recommended that health and safety staff members be informed about whether their recommendations are going to be adopted; if not, why not; and what priority specific problems will receive.

I did not disagree with the former employee or the health and safety staff members about the institutional intimidation issue. However, I thought it necessary to provide some phenomenologically based or insider's view of the context of that finding.

The former employee viewed his job as one of problem identification and expected simple, rigid compliance with his recommendations. He viewed himself as an expert in his area who performed his job with precision and conformity to rules and regulations. Some of his col-

leagues viewed him as the consummate professional. According to other colleagues and clients, he had a tendency to "overreact," providing "the worst-case scenario." Few people doubted his technical precision, but even colleagues who admired his professional abilities questioned his manner of presenting his findings.

The former employee identified many health and safety hazards, ranging from serious problems to minor ones. Unfortunately, he presented the problems without providing a sense of proportion. His presentation created the impression that all the problems he identified were of equal significance and priority. Clients who requested guidance in assigning priorities to the problems complained that little help was forthcoming.

This failure to establish priorities was compounded by incidents in which some faculty clients felt that he used "scare tactics" to communicate his findings. For instance, in pointing out unsatisfactory laboratory practices, the former employee often told people that all members of the department faculty could go to jail. He had been criticized in the past for the manner of his communication with other university departments, which was perceived by the other departments as efforts to frighten them rather than to provide help and advice.

Moreover, some members of management felt that he was simply saying the same things over and over again and that he had "no new news" to report. Management felt it had taken his advice into account, weighed the options along with other considerations, and made decisions accordingly.

I also felt that an assessment of this situation required some discussion about the role of a health and safety officer. This role is filled with a variety of obligations that may be in tension with, or even conflict with, one another. A health and safety officer is charged with identifying, documenting, cataloging, and responding to problems. Management, however, is responsible for establishing priorities and time lines to respond to identified hazards. Management's response is based on the severity of the problem, availability of resources, and systemwide plans and activities. A difference of opinion often exists between management and a health and safety officer about the urgency required to respond to a given hazard. Arguments abound between interested parties, each playing its part in a process in which resources are not adequate

to respond to all needs.

I concluded that no organization can function effectively under siege -- in fear of its own employees' appealing to the press every time they feel problems are not being resolved in the way they have recommended and within their personal time lines. In this case, management, rightly or wrongly, believed that the former employee was attempting to circumvent the organization's decision-making process. But threatening to fire him was nonetheless an act of intimidation.

In summary, my (external) view was juxtaposed against the health and safety staff member (insider) views in the areas of unethical behavior and cover-up. None of the staff members thought the university had acted unethically. I thought one case raised ethical considerations. Some professional staff members (31%) believe that there might be a cover-up. I understood why they thought there might be a cover-up. However, I found no instances of a cover-up. In addition, my (external) assessment of the intimidation issue was counterpoised with my (insider) view or phenomenologically derived perception of management decision making. This phenomenologically based information was used to meaningfully communicate the context of this aberrant case of intimidation.

These contradictions between the insiders' views and my own external view do not imply that the insiders' views are any less real to the insiders or that they do not shape their behavior. Rather, the contradictions point to a weakness in the communication loop between all parties concerned.

Conclusion

The journey from qualitative to quantitative and back again may appear circuitous at times. However, it is a logical progression toward an accurate portrayal of events. (See Fetterman 1989.) Stopping prematurely at one stage in the process can be misleading -- providing a false picture of the entire event.

The nature of the problem and the experience of the evaluator will dictate which approach is fundamentally best suited to the task. However, combining both qualitative and quantitative

approaches at appropriate junctures will only enhance the usefulness and accuracy of an evaluation.

References

Fetterman, D.M. *Stanford Special Review on Health and Safety (Phase II): A Report on Allegations.* Internal Audit Department, Stanford University, 1988.

Fetterman, D.M. *Ethnography: Step by Step.* Newbury Park, CA: Sage Publications, 1989.